

ProQinase™ VEGF-R1

fms related tyrosine kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: FLT1

Synonyms: FRT

Product No.: 0097-0000-1

Lot: 011

Description: Human VEGF-R1, C-terminal fragment, amino acids K₇₈₄-I₁₃₃₈ (as in [NCBI/Protein](#) entry NP_002010.1), N-terminal GST fusion protein with a Factor Xa cleavage site, expressed in Sf9 insect cells

Product identity: VEGF-R1 Lot 011, was confirmed as VEGF-R1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 89,357 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: in vitro auto activation

Storage buffer: 50 mM TRIS-HCl pH 8.0, 100 mM NaCl, 5 mM DTT, 20 % glycerol

Storage temperature: -80°C

For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.160 µg/µl

(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

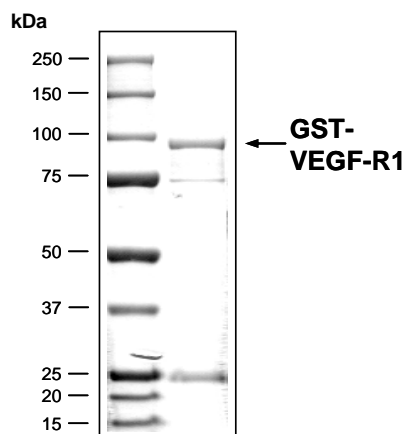
Specific kinase activity (P_i transfer): 151 pmol/µg × min

ATP-K_M: 5.2 µM

Additional assay technology:

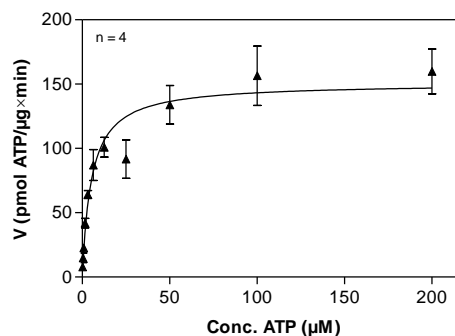
VEGF-R1 Lot 011 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

VEGF-R1 Lot 011:
Coomassie stain



2.0 µg GST-VEGF-R1

VEGF-R1 Lot 011:
Determination of V_{max} and K_M value for ATP



Determination of K_M value & Specific activity:

- Assay conditions:
 - 60 mM HEPES-NaOH, pH 7.5
 - 3 mM MgCl₂
 - 3 mM MnCl₂
 - 3 µM Na-orthovanadate
 - 1.2 mM DTT
 - 50 µg/ml PEG_{20,000}
 - ATP (variable)
 - Substrate: Poly(Glu:Tyr)_{4:1}, 40 µg/ml
 - Kinase: 2 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

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GST-VEGF-R1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	L IEGR GILKR	SSSEIKTDYL	240
241	SIIMDPDEVP	LDEQCERLPY	DASKWEFARE	RLKLGKSLGR	GAFGKVVQAS	AFGIKKSPTC	300
301	RTVAVKMLKE	GATASEYKAL	MTELKILTHI	GHHLNVNLL	GACTKQGGPL	MVIVEYCKYG	360
361	NLSNYLKSQR	DLFFLNKDA	LHMEPKKEKM	EPGLEQKKP	RLDSVTSSES	FASSGFQEDK	420
421	SLSDVEEED	SDGFYKEPIT	MEDLISYSFQ	VARGMEFLSS	RKCIHRDLAA	RNILLSENNV	480
481	VKICDFGLAR	DIYKNPDYVR	KGDTRLPLKW	MAPESIFDKI	YSTKSDVWSY	GVLLWEIFSL	540
541	GGSPYPGVQM	DEDFCSRLRE	GMRMRAPEYS	TPEIYQIMLD	CWHRDPKERP	RFAELVEKLG	600
601	DLLQANVQQD	GKDYIPINAI	LTGNSGFTYS	TPAFSEDFFK	ESISAPKFNS	GSSDDVRYVN	660
661	AFKFMSLERI	KTFEELLPNA	TSMFDDYQGD	SSTLLASPML	KRFTWTDSPK	KASLKIDLRV	720
721	TSKSKESGLS	DVSRPSFCHS	SCGHVSEGKR	RFTYDHAELE	RKIACCSPPP	DYNSVVLYST	780
781	PPI						840

1-218: GST **Red**: HIS6-tag **Pink**: Factor Xa cleavage site **blue**: VEGF-R1 fragment

VEGF-R1 wt ¹ Amino Acid Sequence							
1	MVSYWDTGVL	LCALLSCLLL	TGSSSGSKLK	DPELSLKGTO	HIMQAGQTLH	LQCRGEAAHK	60
61	WSLPEMVSKE	SERLSITKSA	CGRNGKQFCS	TTLTNTAQAN	HTGFYSCKYL	AVPTSKKKT	120
121	ESAIYIFISD	TGRPFVEMYS	EIPEIIHMTE	GRELVIPCRV	TSPNITVTLK	KFPLDTLIPD	180
181	GKRIIWDSRK	GFIISNATYK	EIGLLTCEAT	VNGHLYKNTY	LTHRQNTNII	DVQISTPRPV	240
241	KLLRGHTLVL	NCTATTPPLN	RVQMTWSYPD	EKNKRASVRR	RIDQNSHAN	IFYSVLTIDK	300
301	MQNKDKGLYT	CRVRSGPSFK	SVNTSVHIYD	KAFITVKHRK	QQVLETVAGK	RSYRLSMKVK	360
361	AFPSPEVWVL	KDGLPATEKS	ARYLTRGYSL	IIKDVTEEDA	GNYTILLSIK	QSNVFNKLT	420
421	TLIVNVKQPI	YEKAVSSFPD	PALYPLGSRQ	ILTCTAYGIP	OPTIKWFVHP	CNHNHSEAR	480
481	DFCSNNEESF	ILDADSNMGN	RIESITQRMA	IEGKNKMAS	TLVVADSRIS	GIYICIASNK	540
541	VGTVGRNISF	YITDVPNGFH	VNLEKMPTEG	EDLKLSCVTN	KFLYRDVTWI	LLRTVNNRTM	600
601	HYSISKQKMA	ITKEHSITLN	LTIMNVSLQD	SGTYACRARN	VYTGEEILQK	KEITIRDQEA	660
661	PYLLRNLSDH	TVAISSSTTL	DCHANGVPEP	QITWFKNNHK	IQQEPGIILG	PGSSTLFIER	720
721	VTEEDEGVYH	CKATNQKGSV	ESSAYLTVQG	TSDKSNLELI	TLTCTCVAAT	LFWLLLLLLI	780
781	RKMKRSSSEI	KTDYLSIIMD	PDEVPLDEQC	ERLPYDASKW	EFARERLKLK	KSLGRGAFGK	840
841	VVQASAFGIK	KSPTCRTVAV	KMLKEGATAS	EYKALMTELK	ILTHIGHHLN	VVNLGACTK	900
901	QGGPLMVIVE	YCKYGNLSNY	LKSKRDLFFL	NKDAALHMEP	KKEKMEPGLN	QGKKPRLDV	960
961	TSSESFASSG	FQEDKLSLDV	EEEESDGFY	KEPITMEDLI	SYSFQVARGM	EFLSSRKCII	1020
1021	RDLAARNILL	SENNVVKICD	FGLARDIYKN	PDYVRKGDTR	LPLKWMAPES	IFDKIYSTKS	1080
1081	DVWSYGVLW	EIFSLGGSPY	PGVQMEDDFC	SRLREGMRMR	APEYSTPEIY	QIMLDCWHRD	1140
1141	PKERPRFAEL	VEKLGDLLQA	NVQDQDKDYI	PINAILTGNS	GFTYSTPAFS	EDFFKESISA	1200
1201	PKFNSGSSDD	VRYVNAFKFM	SLERIKTFEE	LLPNATSMFD	DYQGSSTLL	ASPMLKRFTW	1260
1261	TDSKPKASLK	IDLRVTSKSK	ESGLSDVSRP	SFCHSSCGHV	SEKRRRFTYD	HAELERKIC	1320
1321	CSPPPDYNSV	VLYSTPPI					1380

blue: VEGF-R1 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_002010.1